

REMARKS

The Office Action mailed January 31, 2006, has been reviewed and carefully considered.

Claims 1, 9, 10, 11, 19, 20 and 21 have been amended. Claims 1-22 are pending in the application.

In paragraph 2 on page 2 of the Office Action, claims 1-3, 9, 11, 19 and 21-22 were rejected under § 102(b) as being anticipated by Xue et al. In paragraph 3 on page 3 of the Office Action, claims 4 and 5 were rejected under § 103(a) as being unpatentable over Xue et al.

In paragraph 4 on page 4 of the Office Action, claims 6-8, 10, 12-18 and 20 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicants respectfully traverse the rejections, but in the interest of expediting prosecution have amended the claims to overcome the rejections. Applicants respectfully submit that the cited references, alone or in combination, fail to disclose, teach or suggest Applicants' invention as recited in the amended claims.

The Office Action alleges that a hard bias seedlayer structure comprises forming at least a first layer 214 comprising silicon such as silicon/tantalum-nitride and a second layer 216 comprising chromium. However, Applicants point out that the first 214 and second 216 layers are not a hard bias seedlayer structure. Rather, emphasize that Xue et al. shows a bilayer seed layer 214/216 that includes a TaN seed layer 214 and a NiFeCr seed layer 216 formed underneath the GMR SV structure 218. A hard-bias film is deposited on first half gap layer 212 to form first and second hard-bias regions 220 and 222 at the sides of the stack formed by the GMR SV structure 218 and the bilayer seed layer 214/216.

Accordingly, the bilayer seed layer 214/216 is not a hard bias seedlayer structure and plays no part in forming the hard bias layer. Rather, Xue's bilayer seed layer is used to promote the texture and grain growth of each of the layers subsequently grown upon the seed layer, i.e., the layers of the GMR SV structure 218. In addition, the bilayer seed layer 214/216 is not formed adjacent to and on opposite sides of at least a portion of the GMR SV structure 218, but rather is formed beneath the GMR SV structure 218.

Therefore, Applicants respectfully submit that Xue et al. fails to disclose, teach or suggest the invention as recited in independent claims 1, 11 and 21.

Dependent claims 2-10, 12-20 and 22 are also patentable over the references, because they incorporate all of the limitations of the corresponding independent claims 1, 11 and 21. Further dependent claims 2-10, 12-20 and 22 recite additional novel elements and limitations. Applicants reserve the right to argue independently the patentability of these additional novel aspects. Therefore, Applicants respectfully submit that dependent claims 2-10, 12-20 and 22 are patentable over the cited references, and request that the objections to the independent claims be withdrawn.

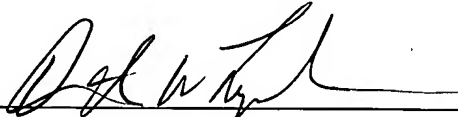
On the basis of the above amendments and remarks, it is respectfully submitted that the claims are in immediate condition for allowance. Accordingly, reconsideration of this application and its allowance are requested.

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Reply to Office Action of January 31, 2006

If a telephone conference would be helpful in resolving any issues concerning this communication, please contact Attorney for Applicant, David W. Lynch, at 423-757-0264.

Respectfully submitted,

Chambliss, Bahner and Stophel
1000 Tallan Building
Two Union Square
Chattanooga, TN 37402
423-757-0264

By: 
Name: David W. Lynch
Reg. No.: 36,204